1.7 Simple & Compound Interest, Growth & Decay

Question Paper

Course	CIE IGCSE Maths
Section	1. Number
Topic	1.7 Simple & Compound Interest, Growth & Decay
Difficulty	Hard

Time allowed: 30

Score: /21

Percentage: /100

Question 1

Beth invests $2000 at a rate of 2% per year compound interest.

i)
Calculate the value of this investment at the end of 5 years.

$ .... [2]

ii)
Calculate the overall percentage increase in the value of Beth's investment at the end of 5 years.

.... % [2]

iii)
Calculate the minimum number of complete years it takes for the value of Beth's investment to increase from $2000 to more than $2500.

[3]

[7 marks]

Question 2

Ollie invests $200 at a rate of 0.0035% per day compound interest.

Calculate the value of Ollie's investment at the end of 1 year.
[1 year = 365 days.]

$ .... [2]

[2 marks]

Question 3

The value of a gold ring increases exponentially at a rate of 5% per year.
The value is now $882.

i)
Calculate the value of the ring 2 years ago.

$ .... [2]

ii)
Find the number of complete years it takes for the ring's value of $882 to increase to a value greater than $1100.

[2]

[4 marks]

Question 4

Mohsin's earnings increase exponentially at a rate of 8.7% each year.
During 2018 he earned $195 600.

During 2027, how much **more** does he earn than during 2018?

$ .... [3]

[3 marks]

Question 5

Bryan invested $480 in an account 4 years ago.
The account pays compound interest at a rate of 2.1% per year.
Today, he uses some of the money in this account to buy a bicycle costing $430.

Calculate how much money remains in his account.

$ .... [3]

[3 marks]

Question 6

In a city the population is increasing exponentially at a rate of 1.6% per year.

Find the overall percentage increase at the end of 20 years.

.... % [2]

[2 marks]